## AMENDMENTS TO THE DRAWINGS

*Marked-up versions of FIGs. 2, 6a, 6b, 6c, 6d, and 9a showing changes in red, follow this page; replacement sheets are positioned after the last page of the "Remarks" section of this amendment.*

Applicant's Amendment and Reply to Office Action dated January 30, 2008
Annotated Sheet Showing Changes

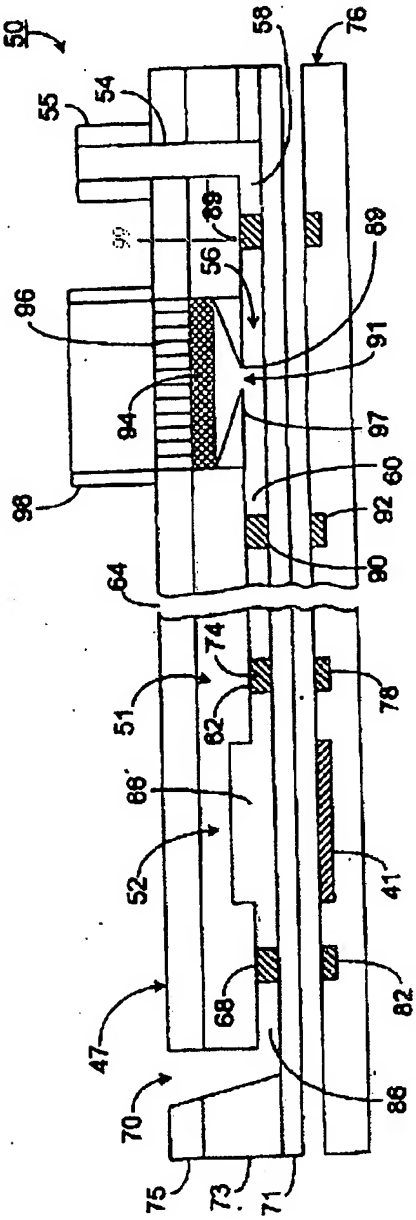


FIG. 2

Applicant's Amendment and Reply to Office Action dated January 30, 2008
Annotated Sheet Showing Changes

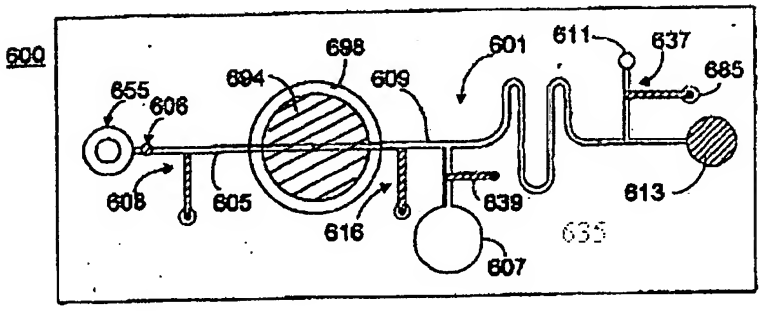


FIG. 6A

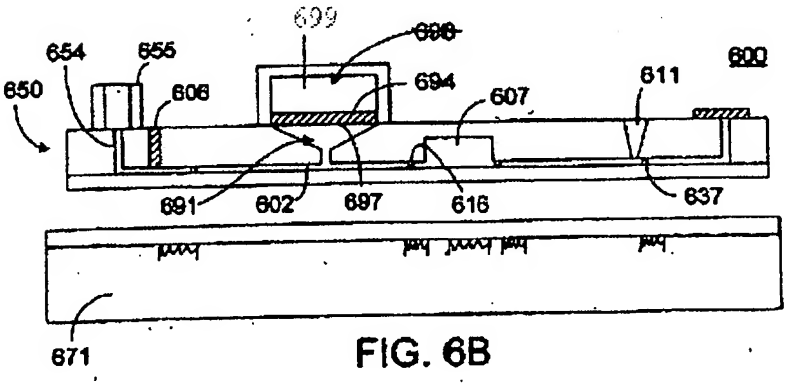


FIG. 6B

Applicant's Amendment and Reply to Office Action dated January 30, 2008
Annotated Sheet Showing Changes

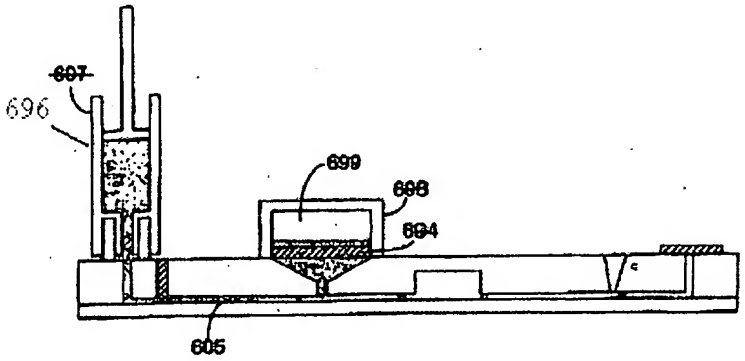


FIG. 6C

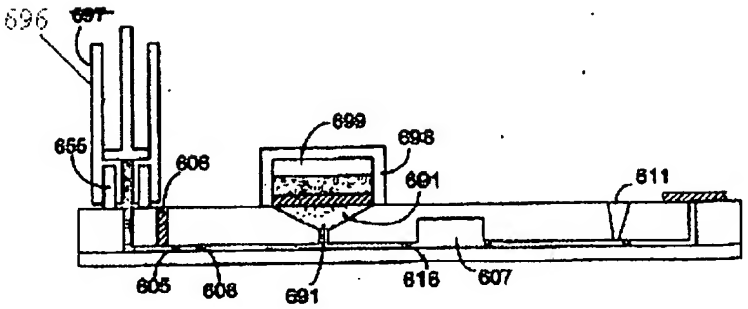


FIG. 6D

Applicant's Amendment and Reply to Office Action dated January 30, 2008
Annotated Sheet Showing Changes

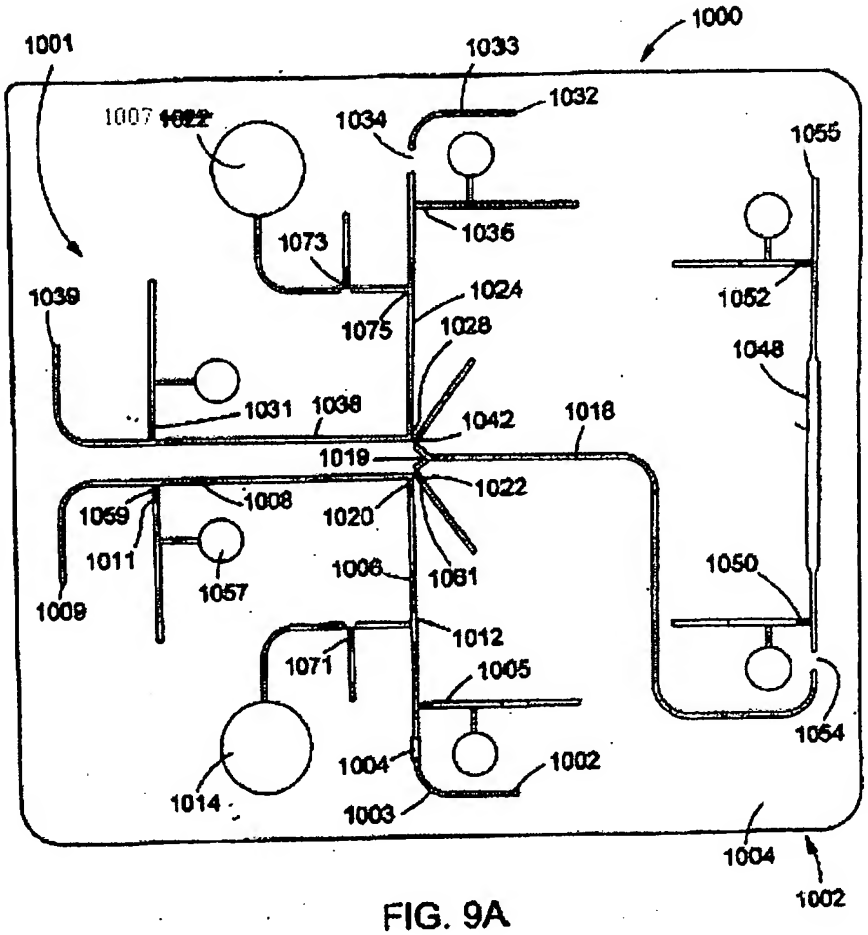


FIG. 9A

## REMARKS

Applicants have considered the office action mailed January 30, 2008 in connection with the above-identified patent application.

**Amendments to Specification and Drawings**

With the instant amendment, Applicants amend the specification and drawings to correct various typographical errors and other various clerical errors, the nature of which would be clear to one of ordinary skill in the art.

FIG. 2 has been amended to correct the reference numeral 89 to 85. The positioning of such new or revised reference numerals is based on other drawings as filed and the accompanying description found in the specification as filed.

FIGs. 6a, 6b and 6c have been amended to replace the reference numerals 698, 697, and 697 by, respectively, 699, 696, and 696. The positioning of such new or revised reference numerals is based on other drawings as filed and the accompanying description found in the specification as filed.

FIG. 9a has been amended to correct the reference numeral 1022 to 1007. The positioning of such new or revised reference numerals is based on other drawings as filed and the accompanying description found in the specification as filed.

Paragraphs on pages 1, 2, 4, 5, 7, 8, 9, 10, 12, 14, 17, 19, 21, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, and 40 have been amended to correct various errors of spelling, grammar, or in reference to Figure numbers.

Paragraphs at pages 15, 18, 22, 23, 28, 29, 31, 32, 35, and 37 have been amended to correct terminology or reference numerals in the figures where inconsistent with other usage within the specification as filed and where it would be clear which element is correct.

Accordingly, none of the foregoing amendments to the specification introduces new matter, and entry thereof is respectfully requested.

**Amendments to the Claims**

Claims 1 – 21 are pending in the instant application prior to entry of the instant amendments.

Claims 1, 3, 6, 7, 16, 19, and 21 are amended herein to attend to various matters of antecedent basis.

Claim 9 is amended to recite an aspect of the entry path, as described in the specification as filed at, *e.g.*, page 16, line 3.

Claims 15 and 17 are cancelled herein without prejudice. Applicants reserve the right to pursue the subject matter of claims 15 and 17 in subsequent prosecution of the instant application, or in one or more continuations or divisionals thereof.

Accordingly, no new matter is introduced by way of the new and amended claims herein and entry thereof is respectfully requested.

**REJECTIONS OF THE CLAIMS**

**Rejections under 35 U.S.C. § 102(e)**

The Examiner has rejected claims 1, 2, 5 – 10, 14 – 15, and 17-21 under 35 U.S.C. § 102(e) as allegedly being anticipated over WO03/012406 to Parunak *et al.* ("Parunak" hereinafter). Applicants respectfully traverse the rejection.

As a preliminary matter, Applicants do not understand the Examiner's statement (January 30, 2008 office action at page 2) that "the changes made to 35 U.S.C. § 102(e) by the American Inventors' Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000." Since the cited reference in this instance (WO03/012406) has an international filing date of March 27, 2002 (and an earliest claimed priority date of 26 July, 2001), *i.e.*, *after* November 29, 2000, this reference *does* benefit from the referenced changes made to 35 U.S.C. § 102(e), as does the instant application (whose international filing date is August 2, 2004). See also MPEP § 2146 ("The amendment to 35 U.S.C. 103(c) made by the AIPA to change 'subsection (f) or (g)' to

'one of more of subsections (e), (f), or (g)' applies to applications filed on or after November 29, 1999.").

Notwithstanding the status of Parunak as a reference under 35 U.S.C. § 102(e), Applicants note that its status as having "a common assignee with the instant application" does remain relevant to rejections under 35 U.S.C. § 103, as further described hereinbelow.

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). Applicants respectfully point out that Parunak neither teaches each and every element of Applicants' claims, nor describes Applicants' invention in complete detail.

In Applicants' invention, the retention member entrains particles from the particle-containing sample as the sample passes through it. A portion of the liquid part of the sample is then redirected back through the retention member (in the opposite direction from which it came, see, *e.g.*, specification at page 16, line 3) and in such a manner that it recombines with the previously entrained particles, and forms an enriched aliquot of particle-containing sample. Parunak describes no comparable structure or process.

Regarding claim 1, which recites a "pressure actuator configured to recombine at least some of the separated particles with a subset of the first portion of the liquid separated from the particles", Applicants find no such structure in Parunak. The examiner cites to Parunak at page 3, line 28 to page 4, line 5 as disclosing such a structure, but Applicants respectfully disagree with the Examiner's analysis. In Parunak a particle-containing sample is passed once over a retention member, where particles are retained, and subsequently released by application of an actuator (Parunak, pages 14 – 16). Parunak does not describe separating a portion of liquid away from the particle-containing sample and using that same portion of liquid to wash off particles from the retaining member. Accordingly, Parunak does not anticipate claim 1.

Claims 2, 5, and 6 depend from claim 1 and therefore are similarly not anticipated by Parunak.

Regarding claim 7, which recites, "spatially separating a first portion of the liquid" and "recombining the retained particles with a subset of the first portion of the liquid", Applicants again respectfully disagree with the Examiner's characterizations of cited portions of Parunak. As discussed in connection with claim 1, Parunak does not describe either separating a portion of the liquid or recombining some or all of that portion of liquid with particles from the sample. Accordingly, Parunak does not anticipate claim 7.

Claim 9, as amended herein, recites a microfluidic device having an enrichment region that includes a retention member, and a pressure activator. The activator is configured to introduce fluid into the enrichment region along an entry path substantially opposite an exit path followed by the particle-containing liquid sample. Again, Parunak does not describe such a structure. In fact, in Parunak, there is only a description of an actuator that is configured to move enriched sample in the same direction that it has already been travelling.

Regarding claim 10, as amended herein, which recites a method for enriching a sample using a microfluidic network, the method, including "expel[ing] a first amount of the fluidic sample through a filter" and causing a "second, smaller, amount of fluid of the fluidic sample to enter the microfluidic network through the filter." This claim, like the others, is not anticipated by Parunak because Parunak does not describe dividing a liquid sample into portions, for passage through a filter.

With respect to claim 14, which recites a "vacuum generator integral with the substrate", Applicants disagree with the examiner's conclusion that Parunak discloses such a feature. An example of Applicants' vacuum generator integral with the substrate is shown in FIG. 2 of the instant application, and in accompanying description on page 16 of Applicants' specification as filed. Applicants note that the disclosure in Parunak (at page 15) does not describe a component that is "integral with the substrate", at least because it contemplates a "mechanical actuator such as a plunger or [diaphragm]".

Claim 15 is cancelled herein and, accordingly, the rejection thereof is rendered moot.

Similar considerations to the foregoing, as applied to claims 1 and 7, for example, also apply to claim 16, which is not anticipated by Parunak at least because Parunak does not describe "allowing a second, smaller, portion of the fluid to pass back through the filter".

Claim 17 is cancelled herein and, accordingly, the rejection thereof is rendered moot.

Claims 18 and 19 recite, respectively, a microfluidic device, and a method of lysing cells using a microfluidic device. In both instances, the device has a mass of TRS disposed in a passage downstream of, and connecting to, a lysing chamber. Parunak does not disclose such a configuration of TRS with respect to a lysing chamber; by contrast, in Parunak, the masses of TRS are disposed in valve or gate chambers (or channels) that intersect a channel emanating from a lysis chamber. Therefore Parunak does not anticipate claims 18 and 19.

Claim 20 recites a method of processing a sample, the method including storing a gas pressure (generated by introducing the sample into a microfluidic network). Parunak does not disclose *storing* a portion of gas and therefore does not anticipate claim 20.

Claim 21 depends from claim 20 and therefore is similarly not anticipated by Parunak. and therefore cannot anticipate claim 20.

Accordingly, the rejected claims, as originally filed or as amended herein, are not anticipated by Parunak, and Applicants respectfully request that the rejection be removed.

**Rejections under 35 U.S.C. § 103**

The Examiner has rejected claims 3, 4, 11 – 13, and 16 under 35 U.S.C. § 103(a) as allegedly being unpatentable over WO 2003/012406 (Parunak, as above). Applicants respectfully traverse the rejection.

The instant application is the U.S. national phase of an international application (PCT/US04/025181) having an international filing date of August 2, 2004 and therefore benefits from the provisions of 35 U.S.C. § 103(c). According to such provisions, a commonly owned patent (or patent application publication, and including the publication of an international application that designates the United States and that published in the English language) that would be cited under 35 U.S.C. § 102(e) is not prior art for purposes of determining non-

obviousness under 35 U.S.C. § 103 if it was commonly owned at the time the instant invention was made.

Parunak is prior art only by virtue of § 102(e) because it was filed before the filing date of the instant application. Parunak (International application Publication no. WO03/012406) was owned by the HandyLab, Inc. at the time that the invention(s) of the instant application, serial no. 10/567,002, was made. The inventors of the instant application were under an obligation to assign their rights in the invention to the HandyLab, Inc. at the time that the invention(s) was made. Accordingly, Parunak is not prior art against the instant application for purposes of 35 U.S.C. § 103(a).

Notwithstanding Parunak's status as not being prior art under §§ 103/102(e), Applicants respectfully submit that the Examiner has not made out a *prima facie* case of obviousness of any of the rejected claims.

The framework under which obviousness of a patent claim is judged was set forth by the U.S. Supreme Court in *Graham v. John Deere*, 383 U.S. 1, 148 USPQ 459 (1966), and is as follows. Under § 103:

- the scope and content of the prior art are to be determined;
- differences between the prior art and the claims at issue are to be ascertained; and
- the level of ordinary skill in the pertinent art resolved.

Based upon the answers to these factual enquiries, the obviousness or nonobviousness of the claimed subject matter is determined. (Such secondary considerations as commercial success, long felt but unsolved needs, failure of others, etc., might also be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented.)

Accordingly, and at a minimum, in order to establish obviousness of a claim, the prior art reference, or references when combined, must teach or suggest each and every limitation of the claimed invention. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974).

In this instance, as discussed hereinabove in connection with the rejections under § 102(e) of the base claims upon which the claims rejected under § 103 depend, Parunak fails to disclose – or teach – elements of the claims including, but not limited to, splitting a liquid

sample, and redirecting a portion of the liquid sample back through a retention member. Therefore, the rejected claims differ from Parunak in more than just those elements the Examiner considers to be minor variations upon Parunak's disclosure. Since the independent claims from which the rejected claims depend differ from Parunak in a number of key aspects, those claims are non-obvious in light of Parunak. Dependent claims are nonobvious under 35 U.S.C. § 103 "if the independent claims from which they depend are nonobvious." In re Fine 837 F.2d 1071; 5 USPQ.2d 1596; MPEP 2143.03.

Accordingly, claims 3, 4, 11 – 13, and 16 are not obvious in light of Parunak — regardless of whether Parunak is a proper reference under 35 U.S.C. §§103/102(e) — and, accordingly, Applicants respectfully request that the rejections of record be removed.

## CONCLUSION

In view of the above remarks, Applicants respectfully submit that the subject application is in good and proper order to issue. Applicants respectfully request that all pending claims be allowed. If, in the opinion of the Examiner, a telephone conference would resolve any outstanding matters not heretofore resolved, the Examiner is encouraged to call the undersigned at (650) 839-5070.

No fees are believed owing with this filing. Should the Commissioner determine otherwise, the Commissioner is hereby authorized to charge Applicants' Deposit Account No. 06-1050 (ref. no.19662-035US1) for any charges or credits.

Respectfully submitted,

Date: July 30, 2008

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